

Table 2. Mole Fractions (x_1), Densities (ρ), Refractive Indices (n), Excess Molar Volumes (V_m^E), and Deviations in Refractive Indices (Δn) of 1,4-Dioxane (1) + Benzene (2) Mixtures at the Temperatures (288.15 to 318.15) K

x_1	ρ g·cm ⁻³	n	V_m^E cm ³ ·mol ⁻¹	$100 \cdot \Delta n$	x_1	ρ g·cm ⁻³	n	V_m^E cm ³ ·mol ⁻¹	$100 \cdot \Delta n$
<i>T</i> = 288.15 K									
0.0000	0.88430	1.5042	0.000	0.000	0.5800	0.97348	1.4565	-0.077	0.145
0.0713	0.89516	1.4982	-0.022	0.047	0.6504	0.98443	1.4510	-0.071	0.139
0.1403	0.90571	1.4924	-0.042	0.079	0.7197	0.99523	1.4456	-0.062	0.128
0.2123	0.91674	1.4864	-0.057	0.108	0.7822	1.00500	1.4408	-0.052	0.113
0.2809	0.92728	1.4807	-0.069	0.126	0.8561	1.01658	1.4352	-0.037	0.082
0.3528	0.93834	1.4748	-0.076	0.138	0.9287	1.02799	1.4298	-0.019	0.050
0.4195	0.94863	1.4694	-0.080	0.144	1.0000	1.03923	1.4245	0.000	0.000
0.5037	0.96165	1.4626	-0.081	0.148					
<i>T</i> = 293.15 K									
0.0000	0.87895	1.5011	0.000	0.000	0.5800	0.96789	1.4539	-0.074	0.138
0.0713	0.88977	1.4951	-0.021	0.043	0.6504	0.97882	1.4484	-0.068	0.133
0.1403	0.90028	1.4894	-0.039	0.074	0.7197	0.98961	1.4432	-0.059	0.121
0.2123	0.91128	1.4835	-0.055	0.102	0.7822	0.99937	1.4384	-0.049	0.106
0.2809	0.92179	1.4778	-0.066	0.118	0.8561	1.01094	1.4329	-0.035	0.077
0.3528	0.93282	1.4720	-0.073	0.129	0.9287	1.02235	1.4276	-0.018	0.045
0.4195	0.94309	1.4666	-0.077	0.136	1.0000	1.03359	1.4224	0.000	0.000
0.5037	0.95608	1.4599	-0.077	0.140					

Data Summary entries for this table

Table #: 2

System type (Pure, Binary, Ternary, Reaction): Binary

Chemical System(s): 1,4-dioxane + benzene

Property: density

Experimental Method: vibrating tube densimeter

Combined Expanded Uncertainty (*k* = 2) for the Property:

$$2\sigma(\rho) = 0.00004$$

State Variables and Constraints:

temperature *T*, mole fraction of 1,4-dioxane x_1 ,

pressure *p* = laboratory pressure

Standard Uncertainty (*k* = 1) for Variables and Constraints:

$$\sigma(T) = 0.01 \text{ K}; \sigma(p) = 5\%; \sigma(x_1) = 0.0001$$

Table #: 2

System type (Pure, Binary, Ternary, Reaction): Binary

Chemical System(s): 1,4-dioxane + benzene

Property: index of refraction

Experimental Method: Abbe refractometer

Combined Expanded Uncertainty (*k* = 2) for the Property:

$$2\sigma(n) = 0.0002$$

State Variables and Constraints:

temperature *T*, mole fraction of 1,4-dioxane x_1 ,

pressure *p* = laboratory pressure

Standard Uncertainty (*k* = 1) for Variables and Constraints:

$$\sigma(T) = 0.01 \text{ K}; \sigma(p) = 5\%; \sigma(x_1) = 0.0001$$

Note: There is no need to mention the derived excess properties in the Data Summary